TRADITIONAL TECNIQUE OF SOCKET PRESERVATION

A CASE REPORT

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INTRODUCTION

Tooth extraction whether traumatic or atraumatic, results in alveolar bone loss both in height and width. An average of 40-60% of original height and width is expected to be lost after extraction, most of which takes place within the first year. The rate of reduction of residual alveolar ridges is greater in mandibular (0.4mm/year) than in maxillary arches (0.1mm/year), 1mm in vertical bone 2-2.5 mm in horizontal bone resorption corresponding to 2mm soft tissue recession.

This might negatively influence bone volume that is needed for future implant placement and also the ideal esthetic restoration and functional outcomes.

Socket Preservation is a procedure in which graft material or scaffold is placed in the socket of an extracted tooth at the time of extraction to preserve the alveolar ridge.

Socket Preservation differs from Ridge Augmentation; in Socket Preservation, the graft or scaffold is placed inside the tooth socket immediately after extraction, whereas the Ridge Augmentation grafting procedure is done to bring back the lost bone after the bone has resorbed and there is insufficient ridge height or width for further treatment procedure.

INDICATIONS

1. Immediately after tooth removal in extraction socket site prevents immediate bone resorption.
2. Preparation of healthy soft and hard tissue bed for future dental procedures
3. When immediate implant placement is contraindicated and delayed implant placement is more appropriate, especially in esthetic cases.
4. Maintains contour and integrity of the socket.
5. Without socket preservation, residual bones could lose volume resulting in loss of facial vertical and horizontal dimension and changes in facial soft tissues aesthetics.

CONTRAINDICATIONS

1. Severe and uncontrolled diabetic patients
2. Patients undergoing radiation therapy on the oral cavity
3. Infected extraction site with acute condition
4. Patients with severe gum disease
5. Patients with systemic diseases contraindicating placement of scaffolds
6. Heavy smokers
7. Deciduous teeth socket
8. Patients having allergic reaction to synthetic materials.

CLINICAL ASSESSMENT

1. Careful radiographic evaluation.
2. Evaluation may be enhanced using Cone beam CT.
3. Decision making on type of extraction required.
4. Bone sounding, confirm the condition of labial, buccal and palatal bone height.
5. Quality and quantity of gingival tissues around the tooth should be evaluated to access the need for connective tissue grafting.

Keys to successful Extraction-socket Grafting According to Dr. Carl Misch, some keys to successful bone grafting of extraction sites include

1. Atraumatic tooth removal.
2. An evaluation of the remaining walls of bone following the extraction,

and evaluation of the size of the defect.

3. Asepsis and complete removal of granulomatous tissue.
4. Ensuring adequate blood supply to the graft site.
5. Graft containment and soft tissue closure.
6. Choice of an appropriate graft material.
7. Ensuring adequate time for healing.

TRADITIONAL SOCKET PRESERVATION

Indicated when the BUCCAL PLATE IS > / = 1MM THICKNESS.

Bone wall thickness is measured using Boley gauge calliper at approximately 2-3mm below the alveolar crest.

According to Korsens2002, Spray et al.2000, bone plate >1mm have significantly more favourable healing capacity, is less prone to future resorption.

An absorbable collagen dressing material may be used to promote clot stabilization. Collagen is an hemostatic agent and possesses the ability to stimulate platelet aggregation and enhanced fibrin linkage which leads to clot formation, stability and maturation (Sableman 1985).

Also collagen is chemotactic for fibroblasts, in vitro this enhances cell migration and promotes primary soverage necessary for bone growth (Postlethwaite et al. 1978)

Cross- mattress sutures are then placed for 14 days of initial healing phase.

CASE PRESENTATION

Fig 1: Pre-Operative Photograph

Fig 2: Atraumatic Extraction Irt 11

Fig 3: Bone Graft Material Packed Into The Extraction Socket,

Fig 4: Placement Of An Ovate Pontic To Provide Support For Surrounding Soft Tissue And Protection To The Underlying Grafted Socket.

Fig 5: Healing Abutment In Place

Fig 6: Abutment With Ball Top

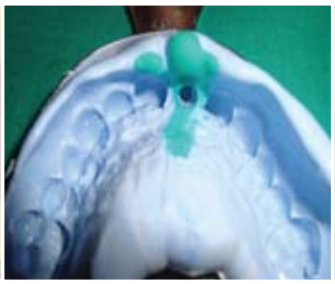

Fig 7:Close Tray Impression

Fig 8: Prepared Abutment

Fig 9: Prepared Abutment Intra Oral View

Fig 10: Cement Retained Prosthesis In Place- Frontal View

Fig 11: Cement Retained Prosthesis In Place- Occlusal View

Fig 12: Four Months Post-Operative

Fig 13: One Year Post-Operative